

TYPE:	<b>A TWO PACK COLD CURED GLASS FLAKE FILLED VINYL ESTER/ ACRYLIC CO-POLYMER. THIS COATING IS PART OF THE POLYGLASS VE FAMILY BUT HAS MODIFIED THIXOTROPIC VISCOSITY AND CURE PROPERTIES TO ALLOW THE MATERIAL TO BE APPLIED BY PIPE PIGGING TECHNIQUES.</b>
SUGGESTED USE:	<p>For the protection of the internals of new pipe lines and the refurbishment of old corroded pipe lines in all types of sour crude, hydrocarbon, or gas including high pressure sea water injection lines and waste water lines. Specified as corrosion resistant in a wide variety of petroleum applications including high sulphur, chlorine and nafta lines. Can be used in multiple coats to build up to any thickness; channel erosion, fill pit marks and create "a fully bonded polymer pipe within a pipe".</p> <p>Suitable for immersed environments where superior resistance to chemical attack is required; VE LL is suitable for many chemical environments within the pH range of 0 to 13 and is unaffected by demineralised water. It also has excellent resistance to many solvents. May be used in aggressive sour gas, oil or mixed phase conditions. The chemical resistance and temperature performance of the VE LL material is similar to Polyglass VE/VEF.</p>
LIMITATIONS:	Affected by some highly polar solvents and solutions exhibiting high pH especially at temperatures above 50°C.
HEALTH & SAFETY:	Before handling or using this product the material safety data sheet should be read and all precautions observed.
SURFACE PREPARATION:	<b>Metals:</b> Prepare in accordance with pipe pigging procedures, using current techniques and best practice, further details are available if required.
APPLICATION EQUIPMENT:	Specialised pipe pigging techniques using compressed air or nitrogen to drive the coating slug between pigs through the pipe line.
APPLICATION:	Dependent upon service use and prevailing site conditions, but Polyglass VE LL is normally applied in wet films between 300 and 1000 microns per coat. Do not apply under humidity conditions exceeding 80% RH and ensure that the steel temperature is at least 3°C above the dew point temperature of the air.
THINNERS:	<b>The use of solvent thinners is prohibited.</b> The performance of Polyglass VE LL can be adversely affected by the addition of solvent thinners.
PACKAGING:	Standard pack size is 20 litre or 205 litre drum composite kits (includes hardener), 1000litre IBCs are available on order.
STORAGE LIFE:	6 months stored at temperatures below 20°C for the base material. Frequent temperature cycling will shorten storage life of the base material. The initiator (catalyst) must be stored away from heat sources and direct sunlight and has a 6 month shelf life. See other information for extension of shelf life.

COLOUR AVAILABILITY:	Unpigmented (Translucent Brown) and Off White only. Other colours are not available and it should be noted that the addition of dyes will adversely affect the products chemical resistance.	
RECOMMENDED SERVICE DFT:	Between 500 and 3mm, dependent upon environment and service requirements. Thicker films can be used for pit filling or improvement in mechanical strength.	
THEORETICAL SPREADING RATE:	1.33m <sup>2</sup> /litre at 750 microns	
VOLUME SOLIDS:	This material contains volatile liquid convertible to solids. Volume solids obtained will vary dependent upon polymerisation conditions. Nominally 99.05% of the contents are convertible to solid.	
PRACTICAL SPREADING RATE:	1.06m <sup>2</sup> /litre at 750 microns	
<b>Note:</b>	This spread rate information is given in good faith but may increase dependent upon environment conditions, the geometry and nature of work undertaken and the skill and care of application. Corrocoat accept no responsibility for any deviation from these values.	
SPECIFIC GRAVITY:	Polyglass base:	1.19 gms/cc
	Initiator (catalyst)r:	1.07 gms/cc
FLASH POINT:	28°C.	
CATALYST TYPE:	Specially blended organic peroxide initiator (catalyst). The type and quantity of initiator is dependant on the pot life required for particular site conditions and will be determined by Corrocoat Technical Services.	
MIXING RATIO:	Between 0.5% and 2% by volume of the initiator must be added to the base material as instructed. Refer to Corrocoat Technical Services.	
HARDNESS:	>25 Barcol after 96 hours ( Indent test on thick film [3mm] samples)	
ELONGATION AT BREAK:	<b>Circa</b> 0.6% dependent upon cure and service condition.	
DIELECTRIC STRENGTH:	18 - 25 x 10 <sup>3</sup> V/mm	
TEMPERATURE LIMITS:	95°C immersed. 150°C non-immersed (gaseous). No known lower limit. Values and suitability for service vary depending on the environment, please refer to Corrocoat Technical Services.	

## OVERCOATING:

May take place as soon as the previous coat has gelled and whilst still tacky. Over coating time window typically 8 days but up to 14 days, depending on the initial catalyst type/pot life, site temperature conditions, etc. Refer to Corrocoat Technical Staff for advice.

Once the maximum overcoating time has been reached, the adhesion values attained by any subsequent coat will reduce dramatically. It is important to observe maximum overcoating times and note these will vary with climatic conditions. Any further application of coating at this juncture should be treated as a repair. Refer Repair Procedures.

## CURING TIME:

**When ordering VE LL the temperature conditions (expressed as minimum, maximum and average) must be given for both the air/water and the steel pipe. This is to allow accurate design of the cure system and suitably control both the pot life and ultimate curing times.**

**Pot Life:** The pot life for the VE LL material is 6 – 8 hours at 20°C. This will vary depending on the temperature and may require to be adjusted to suit certain climatic conditions. The ability to change, and control the speed of polymerisation and thus length of potlife, is one of the factors which make this coating ideal for pigging applications.

**Curing time:** Full chemical resistance and full temperature resistance are determined by an acetone rub test and are normally achieved within 96 hours after the coating has gelled, but the longer the potlife selected, the longer will be the curing time.

The VE LL material is specifically formulated so that both the curing time and pot life can be varied dependant on the pigging project.

## CLEANING FLUID:

Methyl Ethyl Ketone MEK, or Methyl Iso Butyl Ketone MIBK- before gel.

Values are approximate. Physical data is based on the product being in good condition before polymerisation, correctly catalysed and full cure being attained. Should further information be required, please consult Corrocoat Technical Services.

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